CONCLUSION

Applicants submit this Preliminary Amendment prior to the examination of this application on the merits. Since the present amendment does not introduce new matter, Applicants respectfully request its entry prior to examination of the present application.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 1, 6, 14, 15, 17-21, 24, 25, 28, 29 33-37 have been amended as follows:

1. (Amended) A method for determining crystallization conditions for a material, the method comprising:

taking a plurality of different crystallization samples in an enclosed microvolume, the plurality of crystallization samples comprising a material to be crystallized and crystallization conditions which vary among the plurality of crystallization samples;

allowing crystals of the material to form in the plurality of crystallization samples; and

identifying which of the plurality of crystallization samples [form crystals] comprise a precipitate or a crystal of the material.

6. (Amended) A method according to claim 1 wherein [the material to be crystallized is selected from the group consisting of viruses, proteins, peptides, nucleosides, nucleotides, ribonucleic acids, deoxyribonucleic acids] the enclosed microvolume is at least partially defined by a face of a card shaped substrate.

14. (Amended) A method according to claim 1, the method further comprising performing a spectroscopic analysis on a precipitate or crystal formed [within a microvolume] within the microvolume.

15. (Amended) A method according to claim 14, wherein the spectroscopic analysis is selected from the group consisting of Raman, UV/VIS, IR, [or] and x-ray spectroscopy.

17. (Amended) A method according to claim [1] 16, wherein [the microvolume is enclosed within a material defining the microvolume such that in a volume of the microvolume and the material defining the microvolume that an x-ray beam used for x-ray spectroscopy of a crystal will traverse in the process of performing x-ray spectroscopy on a crystal within the microvolume, the volume] x-ray spectroscopy is performed such that a portion of the

microvolume that the x-ray beam traverses contains at least as many electrons as [the sum of the electrons] is contained in [the volume of the] a material defining the portion of the microvolume that the x-ray beam [will traverse] traverses.

18. (Amended) A method according to claim [1] 16, wherein [the microvolume is enclosed within a material defining the microvolume such that in a volume of the microvolume and the material defining the microvolume that an x-ray beam used for x-ray spectroscopy of a crystal will traverse in the process of performing x-ray spectroscopy on a crystal within the microvolume, the volume] x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least three times as many electrons as [the sum of the electrons] is contained in [the volume of the] a material defining the portion of the microvolume that the x-ray beam [will traverse] traverses.

19. (Amended) A method according to claim [1] 16, wherein [the microvolume is enclosed within a material defining the microvolume such that in a volume of the microvolume and the material defining the microvolume that an x-ray beam used for x-ray spectroscopy of a crystal will traverse in the process of performing x-ray spectroscopy on a crystal within the microvolume, the volume] x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least five times as many electrons as [the sum of the electrons] is contained in [the volume of the] a material defining the portion of the microvolume that the x-ray beam [will traverse] traverses.

20. (Amended) A method according to claim [1] 16, wherein [the microvolume is enclosed within a material defining the microvolume such that in a volume of the microvolume and the material defining the microvolume that an x-ray beam used for x-ray spectroscopy of a crystal will traverse in the process of performing x-ray spectroscopy on a crystal within the microvolume, the volume] x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least ten times as many electrons as [the sum of the electrons] is contained in [the volume of the] a material defining the portion of the microvolume that the x-ray beam [will traverse] traverses.

21. (Amended) A method according to claim 1, wherein material defining the microvolume [comprises] defines a groove [designed to reduce] that reduces a number of electrons that an x-ray beam used [for] to perform x-ray spectroscopy of a crystal within the microvolume [will traverse] traverses in the process of performing x-ray spectroscopy on [a] the sample within the microvolume.

24. (Amended) A method according to claim 1, wherein one or more dividers [is] are positioned [between the crystallization samples] within the enclosed microvolume to separate [the] adjacent crystallization samples within the enclosed microvolume.

25. (Amended) A method according to claim [1] 25, wherein the [divider is] one or more dividers are formed of an impermeable material.

28. (Amended) A method according to claim 25, wherein the [divider is] one or more dividers are formed of a permeable material.

29. (Amended) A method according to claim 25, wherein the [divider is] one or more dividers are formed of a semipermeable material.

33. (Amended) A method according to claim 25, wherein at least one of the [divider forms] one or more dividers form an interface selected from the group consisting of liquid/liquid, liquid/ gas interface, liquid/ solid and liquid/ sol-gel interface.

34. (Amended) A method according to claim 25, wherein the [divider is] one or more dividers are selected from the group consisting of a membrane, gel, frit, and matrix.

35. (Amended) A method according to claim 25, wherein the [divider functions] one or more dividers function to modulate diffusion characteristics between adjacent crystallization samples.

36. (Amended) A method according to claim 25, wherein at least one of the [divider is formed] one or more dividers is formed of a semipermeable material which allows diffusion between adjacent crystallization samples.

36. (Amended) A method according to claim 25, wherein at least one of the [divider is formed] one or more dividers is formed of a semipermeable material which allows diffusion between adjacent crystallization samples.

37. (Amended) A method for determining crystallization conditions for a material, the method comprising:

taking a plurality of different crystallization samples in a plurality of enclosed microvolumes, each microvolume comprising one or more crystallization samples, the crystallization samples comprising a material to be crystallized and crystallization conditions which vary among the plurality of crystallization samples;

allowing crystals of the material to form in the plurality of crystallization samples; and

identifying which of the plurality of crystallization samples [form crystals] comprise a precipitate or a crystal of the material.